

**(conj client-side-application
Cafe
DNA
ClojureScript
more)**

Client-side applications

- ad-hoc, chaotic bunch of scripts and inline code
- structured page apps - some "MVC", "Backbone" on top of plain old HTML page
- rich single-page apps
- mix of all of them

What if...

- you need all kinds simultaneously
- you need many distinct client-side apps, not just one
- you want to use the same code, but in different compositions
- you want to use [CoffeeScript, ClojureScript, TypeScript, Sweet.js, Dart...]
- you want it to be future-proof, maintainable, flexible
- while running in a production mode!

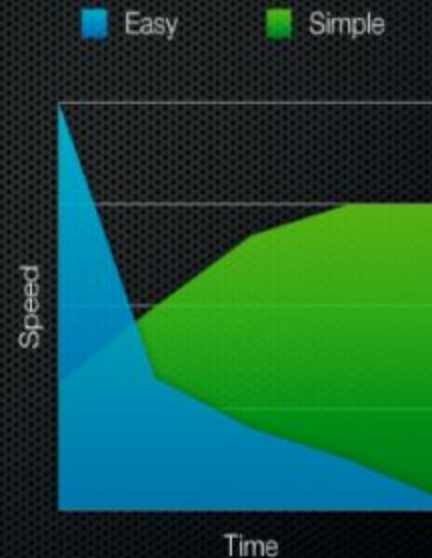
Approach

- "Monster" frameworks can't do that
- Need modular/component architecture, which provides/is:
 - loose coupling
 - high cohesion
 - abstractions-based
 - highly composable
 - declarative
 - layered
 - **simple**
- ...also build process and infrastructure

Why "monsters" are bad

Development Speed

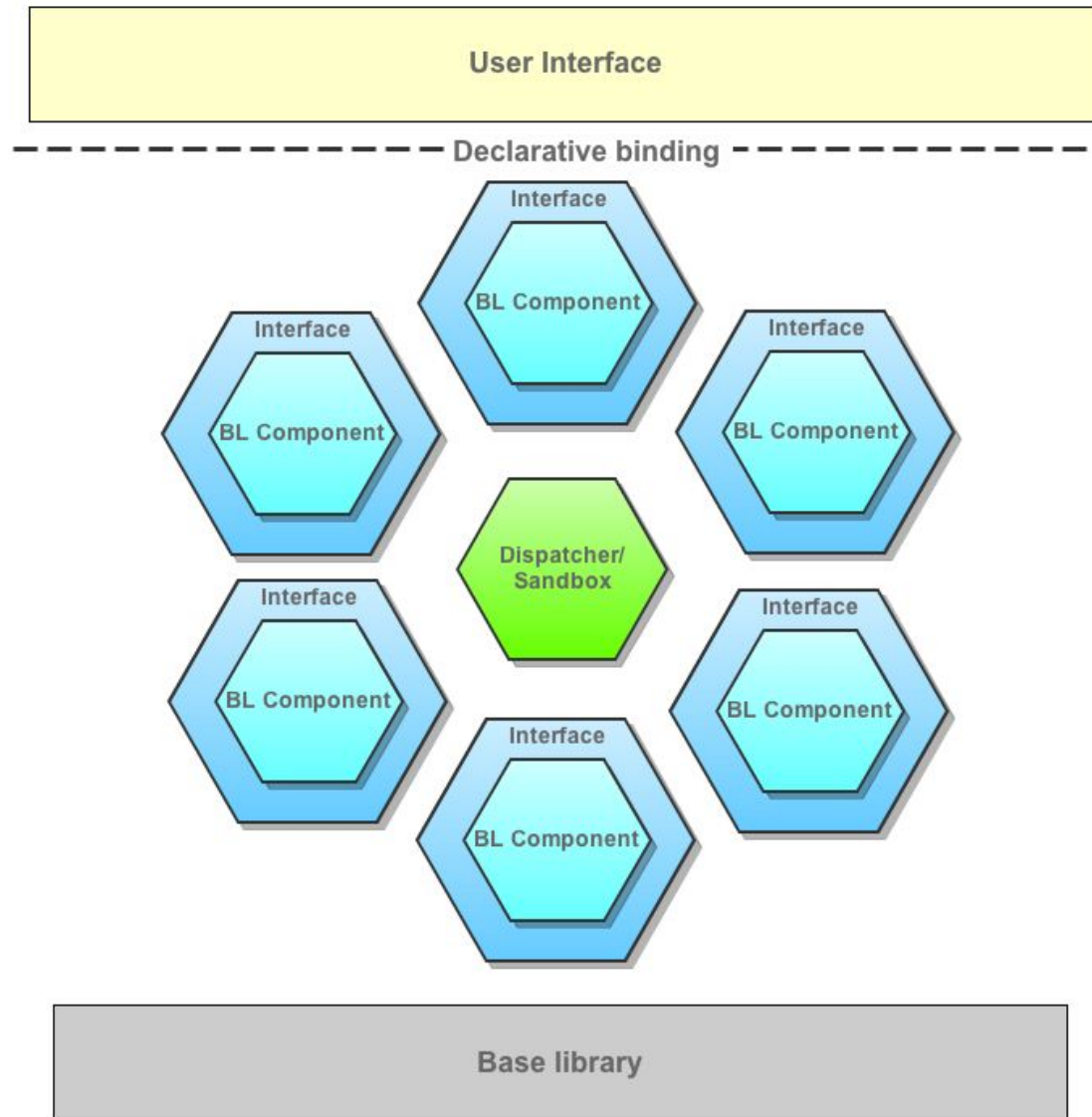
- Emphasizing ease gives early speed
- Ignoring complexity will slow you down over the long haul
- On throwaway or trivial projects, nothing much matters



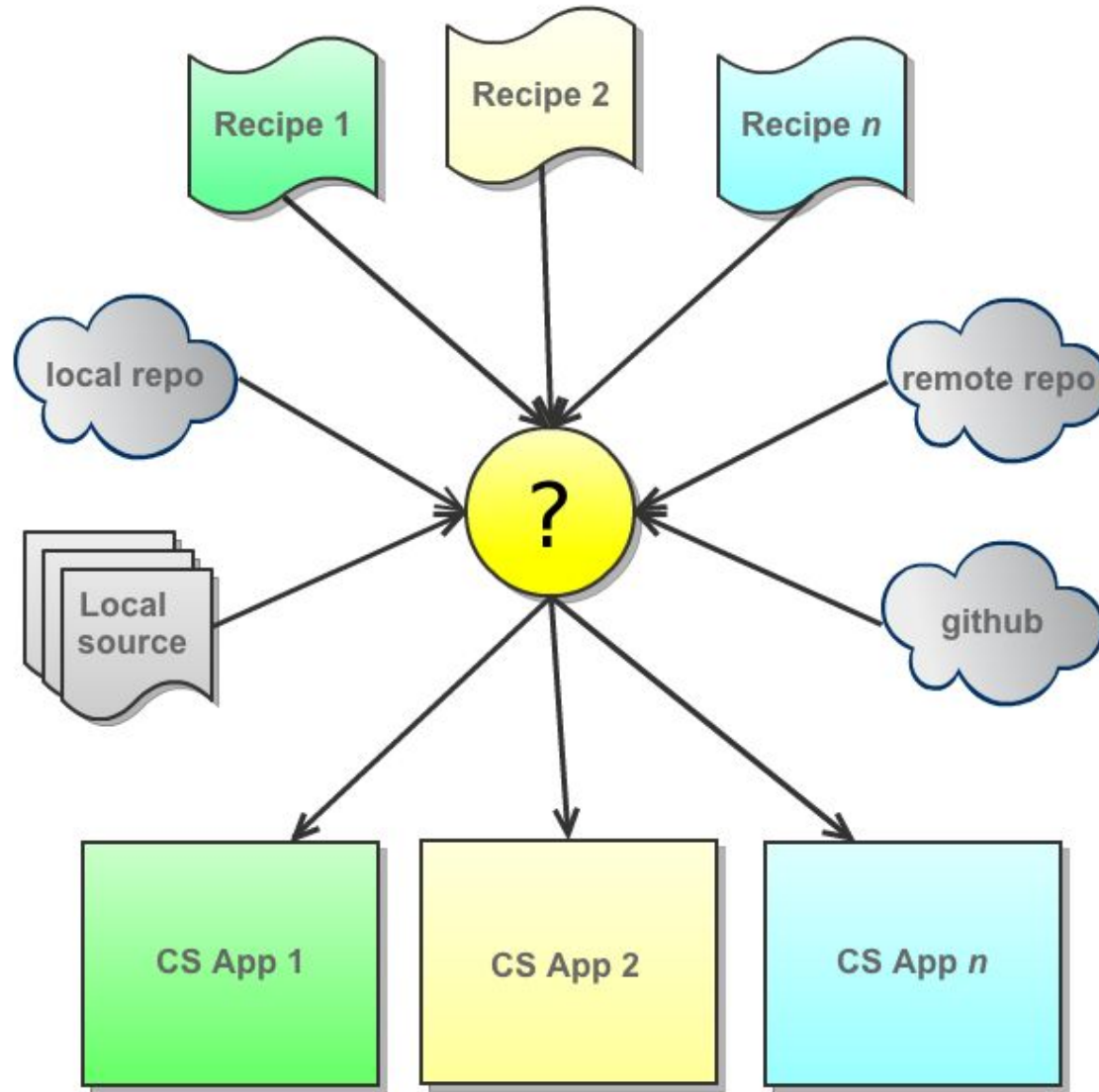
Proposed Prom.ua javascript architecture

```
module1(model<->controller<->view) //some form handler
...
moduleN(model<->controller<->view) //dropdown menu
    ^
    |
    sandbox
    module invocation passing environment
        ^
        |
        application core
loader, IO middleware, event middleware, history middleware,
    entry point
        ^
        |
        plugins -> framework <- plugins
Spine: classes, models, controllers, events, views, routing
    CoffeScript as a bonus
        ^
        |
        extensions -> base library <- extensions
template helpers    jQuery        utils
```

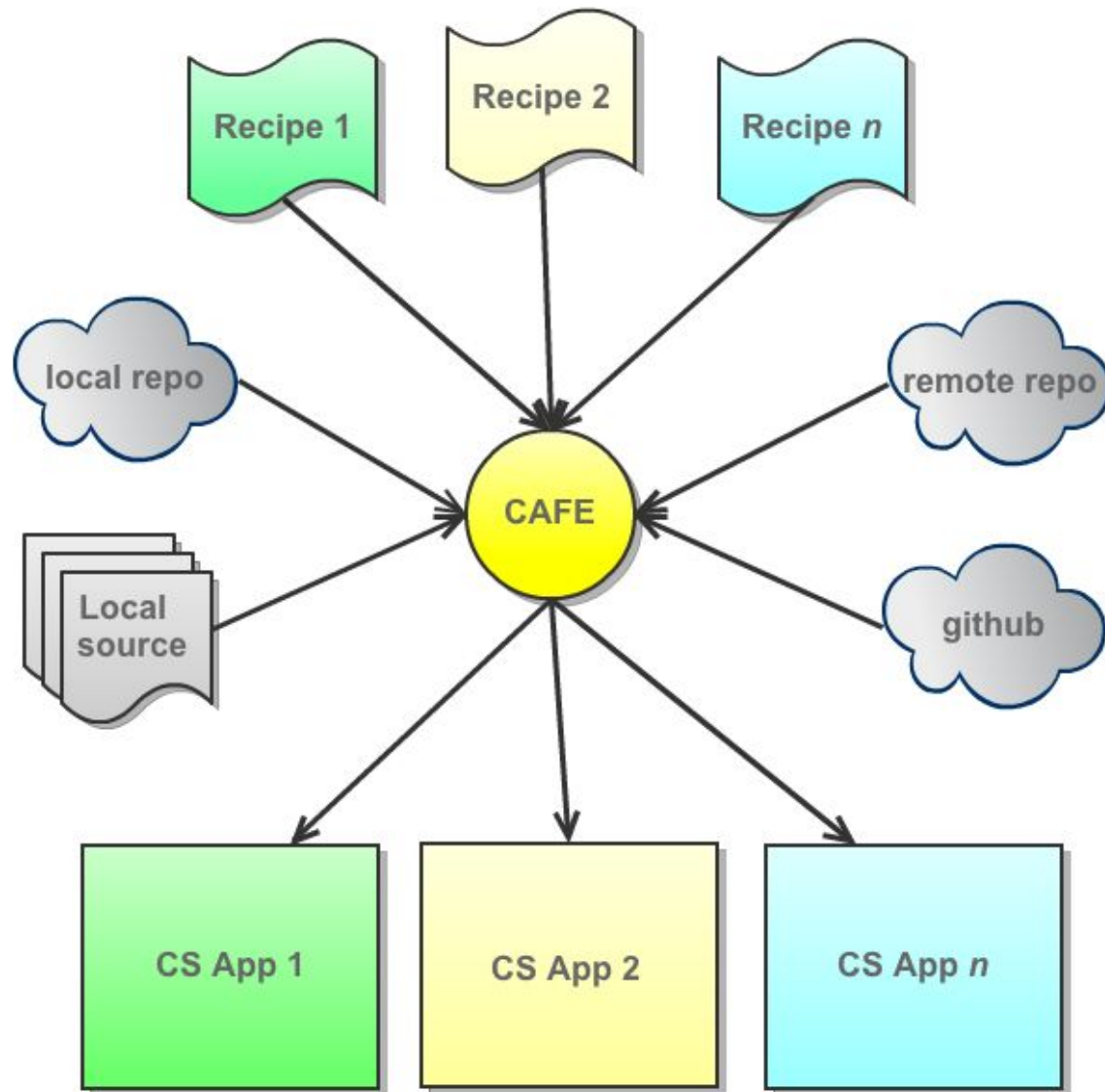
Better architecture



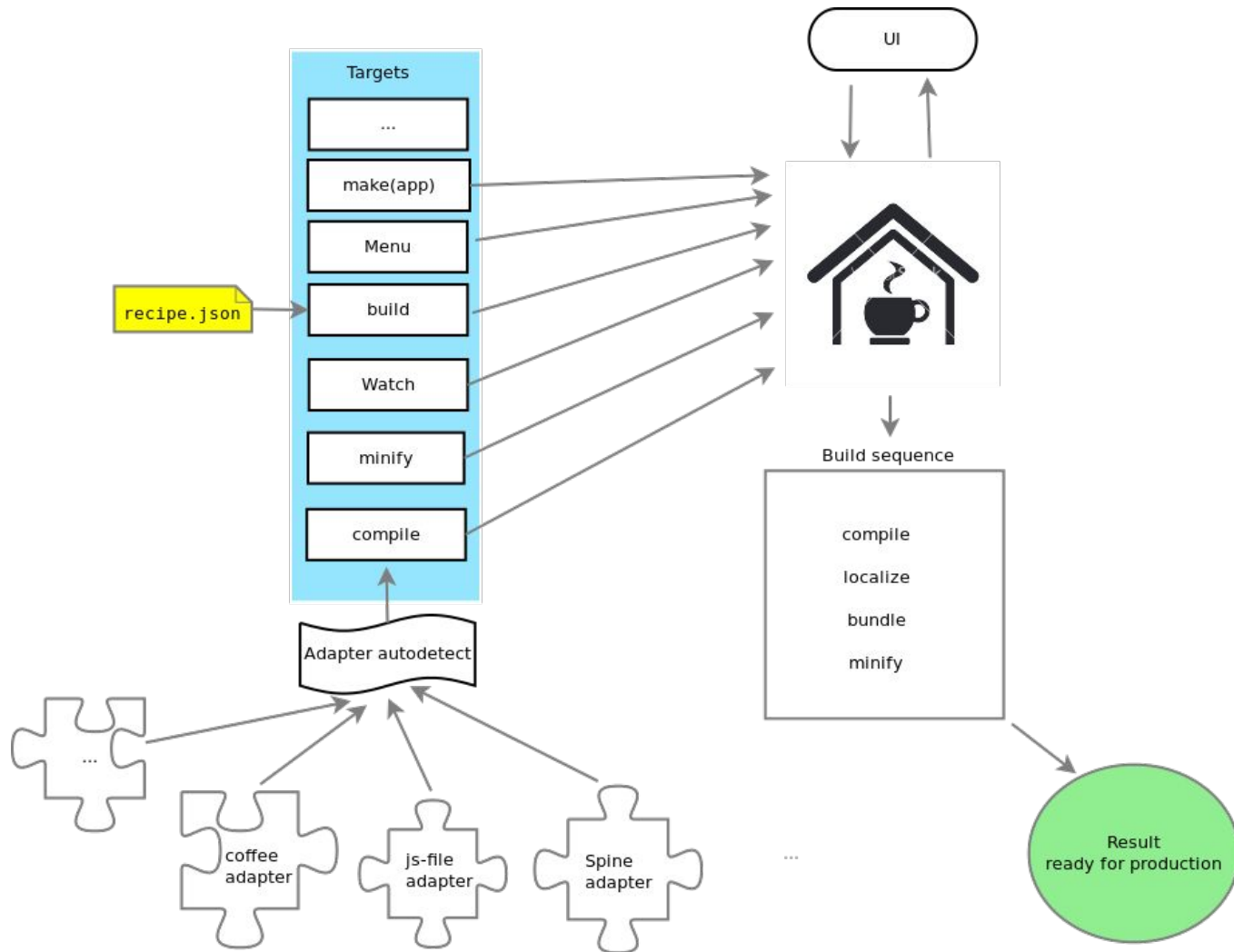
Ecosystem arises



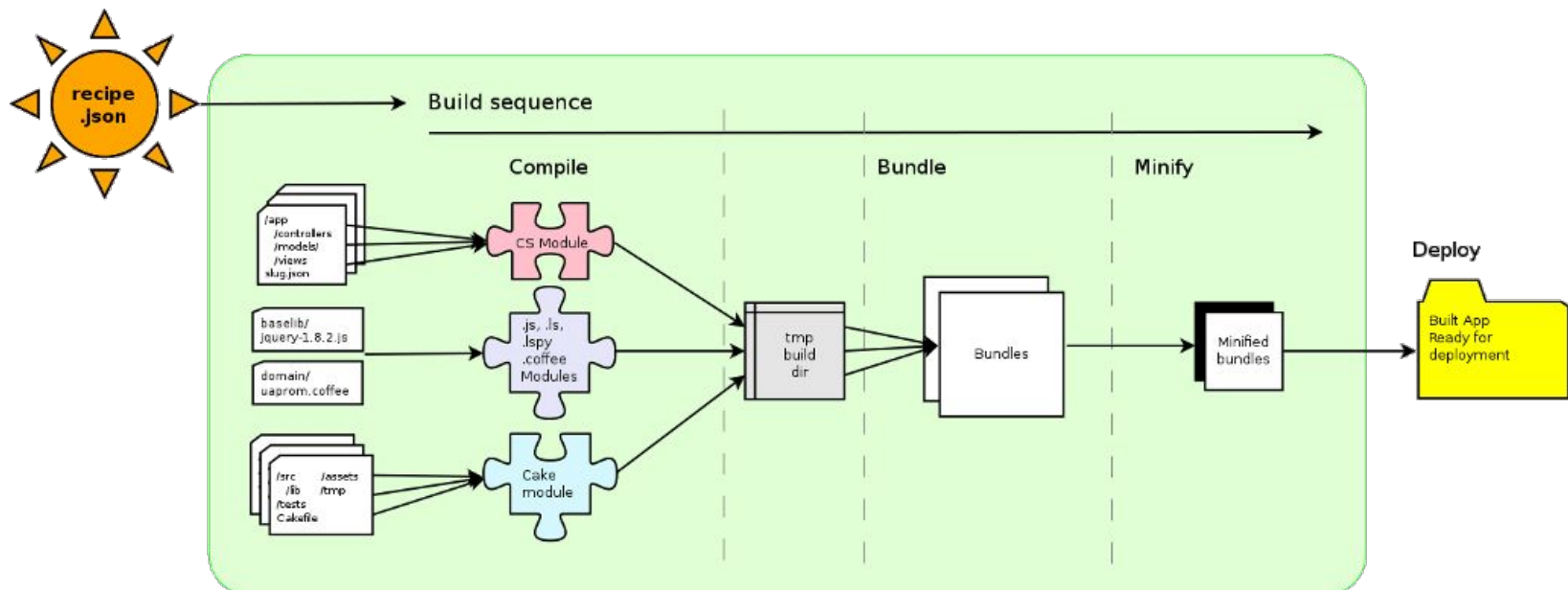
Ecosystem arises



Café



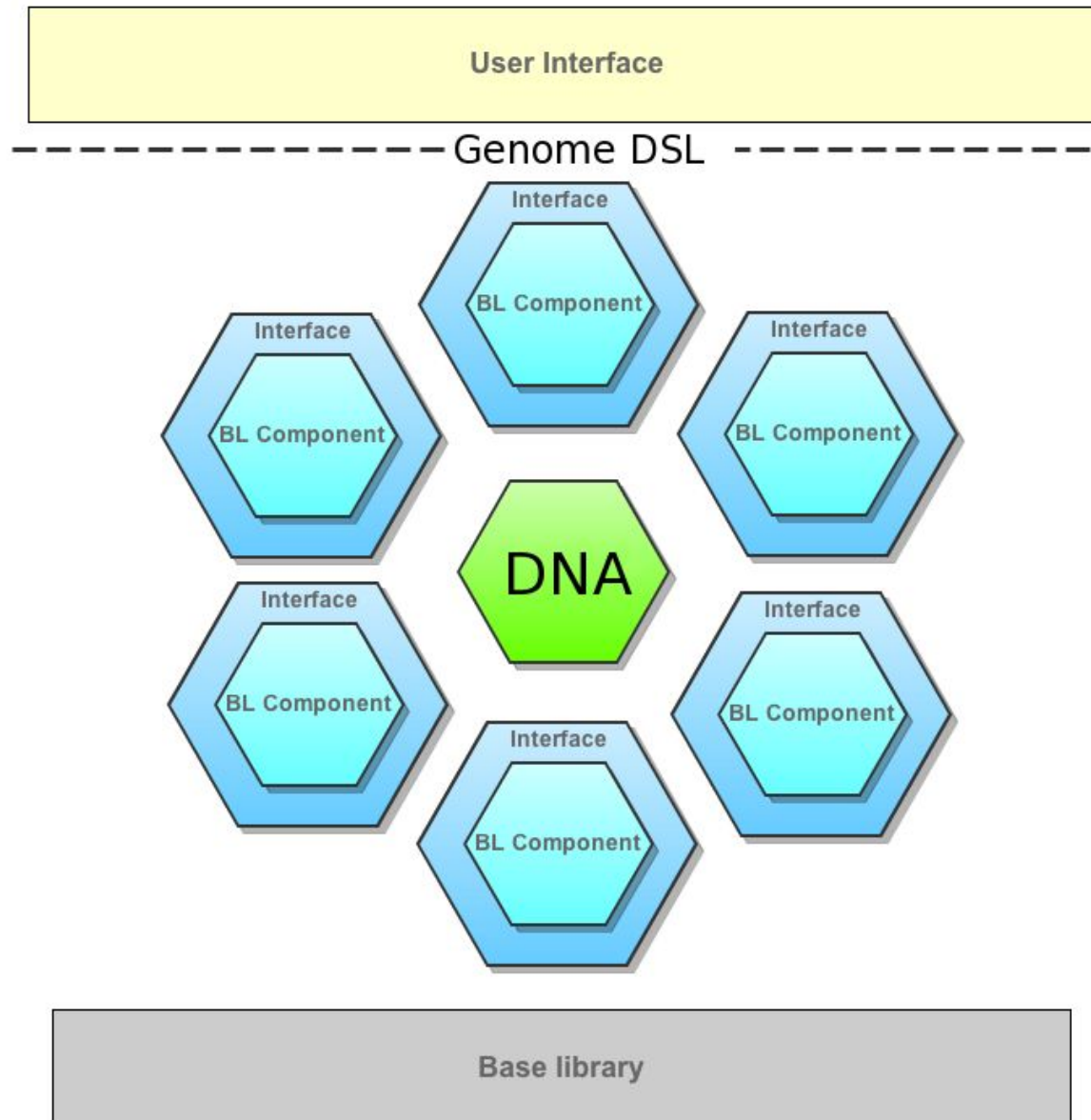
Café



Recipe

```
{
  "realms": {
    "cabinet": [
      {
        "name": "core",
        "modules": [
          "baselib/jquery/jquery-1.6.2.js",
          "baselib/jquery/jquery-ui-1.8.14.custom.js",
          "baselib/Spine.js",
          "CSLib"
        ]
      },
      {
        "name": "common",
        "modules": [
          "PAutocomplete",
          "BreadCrumbs",
          "TutorialWizard",
          "ContactNow",
          "ShoppingCart"
        ]
      }
    ]
  }
}
```

DNA



DNA: Genome DSL

```
<div id="cell1"  
  data-extend-with="IDraggable IPositionReporter IMovable ">  
  
  <span data-subscribe="  
    onDragStop@cell1 : getX@cell1 | setContent">  
    here be x </span>  
  
  <span data-subscribe="  
    onDragStop@cell1 : getY@cell1 | setContent">  
    here be y </span>  
  
  <button data-subscribe='click : "Hello_world" | say'>  
    Say hello </button>  
</div>
```

DNA: Interfaces

Protocols =

```
IDraggable: [  
    ['onDragStart', ['f']]  
    ['onDragStop', ['f']]  
]  
  
IMovable: [  
    ['moveUp', ['x']]  
    ['moveDown', ['x']]  
    ['moveLeft', ['x']]  
    ['moveRight', ['x']]  
]
```

Not a silver bullet

Not a cathedral

Not a pyramid

**An ecosystem of evolving
organisms**

Numbers

213 45 600456 3478 33478578 34 8943 599
34 534 34 346 540992 8 445 545 3459 9834
57843 49 5398 98 7 76 564 4678 798 53 3
3467 6878 90 76 5 46 09808 86 5578 6876 98
7897 986 5675 6745 46734 25 023 4034 34 5

The End